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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,939	12/21/2000	Luc Francois Descamps	Q62126	7321

7590 11/12/2002  
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EXAMINER

TRAN, QUOC DUC

ART UNIT PAPER NUMBER

2643

DATE MAILED: 11/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

17

# Office Action Summary

Application No.

09/740,939

Applicant(s)

DESCAMPS ET AL.

Examiner

Quoc D Tran

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/740,939.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Walance et al (6,466,649).

Consider claim 1, Walance et al teach a time domain reflectometry method for determining properties of a transmission channel, comprising: generating, at one end of the channel, a plurality of pulses covering different frequency bands, and processing, as received signals, the echoes provided by the plurality of pulses at said one end of the channel (col. 1 lines 60-67; col. 2 lines 1-9).

Consider claims 15 and 17, Walance et al teach an apparatus and method for testing the properties of transmission channels between a central office and a subscriber, comprising using time domain reflectometry to test said properties (col. 1 lines 60-67).

Consider claims 2 and 19, Walance et al teach an apparatus and method wherein the generating is performed so that the frequency bands of the plurality of pulses overlap (col. 5 lines 1-11; col. 8 lines 30-55).

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Consider claims 3 and 20, Walance et al teach an apparatus and method wherein the overlapping of the frequency bands is such that, after reflection and said processing, the frequency spectrum of the plurality of pulses is practically flat (col. 6 line 64 – col. 7 line 11).

Consider claim 4, Walance et al teach a method further comprising: providing each of the plurality of pulses with a given amplification or attenuation, and providing pulses of the received signals with the corresponding attenuation or amplification (col. 4 lines 36-67).

Consider claim 5, Walance et al teach a method further comprising subjecting the received signals to a synchronous averaging (col. 5 line 16 – col. 6 line 35).

Consider claim 6, Walance et al teach a method further comprising subjecting the received signals to a matched filtering (col. 5 line 16 – col. 6 line 35).

Consider claim 7, Walance et al teach a method further comprising suppressing noise, in medium and high frequency pulses of the received signals, by estimating the noise for the part of the received signal after the channel end echo, and determining a threshold above which the received signals are taken into consideration (col. 5 line 16 – col. 6 line 35).

Consider claim 8, Walance et al teach a method wherein the processing of the received signals is performed so that the received signals are processed in their own frequency bands, and then added (col. 5 line 16 – col. 6 line 35).

Consider claim 9, Walance et al teach a method further comprising detecting the variation with time of one or more of: the modulus of the received signals, and the frequency of the received signals (col. 5 line 16 – col. 6 line 35).

Consider claim 10, Walance et al teach a method wherein the generating of the plurality of pulses is performed so as to generate complex analytical pulses (col. 4 lines 50-67).

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Consider claim 11. Walance et al teach a method further comprising selecting the frequency bandwidth and the amplitude of low frequency pulses of the received signals according to the channel attenuation and its compliancy in terms of egress (col. 4 lines 50-67).

Consider claim 12, Walance et al teach a method wherein the plurality of pulses are generated sequentially or simultaneously (col. 5 lines 1-15).

Consider claim 13, Walance et al teach a method wherein at least one of said properties being determined comprises the locations of defects of the channel (col. 7 lines 32-59).

Consider claim 14, Walance et al teach a method wherein said transmission channel comprises a telephone line between a central office and a subscriber, and the processing of the received signals is performed at the central office (col. 1 lines 60-67; Fig. 1).

Consider claims 30-31, Walance et al teach an apparatus and method wherein said transmission channels are telephone lines comprising copper pairs between a central office and a subscriber, and further comprising a time domain reflectometry test circuit (col. 1 lines 60-67; Fig. 1).

Consider claims 16 and 18, Walance et al teach an apparatus and method wherein the time domain reflectometry step comprises: generating, at one end of the channel, a plurality of pulses covering different frequency bands, and detecting echoes provided by these pulses at the same end of the line (col. 1 lines 60-67; col. 2 lines 1-9).

Consider claim 21, Walance et al teach an apparatus wherein the pulse generator includes amplification or attenuation for each generated pulse, and said apparatus includes complementary attenuation or amplification for each received pulse (col. 4 lines 36-67).

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Consider claim 22, Walance et al teach an apparatus further comprising a synchronous averager for the received signals (col. 5 line 16 – col. 6 line 35).

Consider claim 23, Walance et al teach an apparatus further comprising a matched filter for the received signals (col. 5 line 16 – col. 6 line 35).

Consider claim 24, Walance et al teach an apparatus further comprising amplification or attenuation for each generated pulse and complementary attenuation or amplification for each received pulse (col. 5 line 16 – col. 6 line 35).

Consider claim 25, Walance et al teach an apparatus further comprising a processor processing the received signals for each frequency band and an adder adding the processed signals (col. 5 line 16 – col. 6 line 35).

Consider claim 26, Walance et al teach an apparatus further comprising a detector detecting the modulus of the received signals and/or the variation with time of the frequency of the received signals (col. 5 line 16 – col. 6 line 35).

Consider claim 27, Walance et al teach an apparatus further comprising a receiver receiving complex analytical pulses (col. 4 lines 50-67).

Consider claim 28, Walance et al teach an apparatus further comprising a selector selecting the frequency bandwidth and the amplitude of the low frequency pulses according to the line attenuation and its compliancy in terms of egress (col. 4 lines 50-67).

Consider claim 29, Walance et al teach an apparatus wherein said pulse generator generates the pulses sequentially or simultaneously (col. 5 lines 1-15).

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***Response to Arguments***

3. Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Facsimile responses should be faxed to:  
**(703) 872-9314**


Hand-delivered responses should be brought to:  
Crystal Park II, 2121 Crystal Drive  
Arlington, VA., Sixth Floor (Receptionist)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Quoc Tran** whose telephone number is **(703) 306-5643**. The examiner can normally be reached on Monday-Thursday from 8:00 to 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Curtis Kuntz**, can be reached on **(703) 305-4708**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600** whose telephone number is **(703) 306-0377**.

November 7, 2002

  
**CURTIS KUNTZ**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**